L Number	Hits	Search Text	DB	Time stamp
1	422	((524/871) or (524/875)).CCLS.	USPAT; US-PGPUB	2003/03/14 10:41
2	57	(((524/871) or (524/875)).CCLS.) and polycarbonate$	USPAT; US-PGPUB	2003/03/14 10:59
3	85	(((524/871) or (524/875)).CCLS.) and adhesiv$ not ((((524/871) or (524/875)).CCLS.) and polycarbonate$)	USPAT; US-PGPUB	2003/03/14 11:12
4	110	(524/280).CCLS.	USPAT; US-PGPUB	2003/03/14 11:12
5	16	((524/280).CCLS.) and adhesiv$	USPAT; US-PGPUB	2003/03/14 11:19
6	514	(528/370).CCLS.	USPAT; US-PGPUB	2003/03/14 11:19
7	72	((528/370).CCLS.) and adhesiv$	USPAT; US-PGPUB	2003/03/14 11:47
8	2206	((528/65) or (528/77) or (528/85)).CCLS.	USPAT; US-PGPUB	2003/03/14 11:48
9	2180	(((528/65) or (528/77) or (528/85)).CCLS.) not ((((528/370).CCLS.) and adhesiv$) or (((524/280).CCLS.) and adhesiv$) or ((((524/871) or (524/875)).CCLS.) and adhesiv$ not ((((524/871) or (524/875)).CCLS.) and polycarbonate$)) or ((((524/871) or (524/875)).CCLS.) and polycarbonate$))	USPAT; US-PGPUB	2003/03/14 11:48
10	462	((((528/65) or (528/77) or (528/85)).CCLS.) not ((((528/370).CCLS.) and adhesiv$) or (((524/280).CCLS.) and adhesiv$) or ((((524/871) or (524/875)).CCLS.) and adhesiv$ not ((((524/871) or (524/875)).CCLS.) and polycarbonate$)) or ((((524/871) or (524/875)).CCLS.) and polycarbonate$))) and polycarbonat$	USPAT; US-PGPUB	2003/03/14 11:49
11	162	(((((528/65) or (528/77) or (528/85)).CCLS.) not ((((528/370).CCLS.) and adhesiv$) or (((524/280).CCLS.) and adhesiv$) or ((((524/871) or (524/875)).CCLS.) and adhesiv$ not ((((524/871) or (524/875)).CCLS.) and polycarbonate$)) or ((((524/871) or (524/875)).CCLS.) and polycarbonate$))) and polycarbonat$) and adhesiv$	USPAT; US-PGPUB	2003/03/14 11:49

L Number	Hits	Search Text	DB	Time stamp
1	1273	(252/511).CCLS.	USPAT; US-PGPUB	2003/03/14 14:35
2	102	((252/511).CCLS.) and adhes$[ab]	USPAT; US-PGPUB	2003/03/14 14:37

(FILE 'HOME' ENTERED AT 16:57:33 ON 14 MAR 2003)

FILE 'REGISTRY' ENTERED AT 16:57:40 ON 14 MAR 2003

L1 4340 S PC/PCT AND DIOL?

L2 600 S L1 AND DIISOCYANAT?

FILE 'CA' ENTERED AT 16:59:48 ON 14 MAR 2003

L3 422 S L2

L4 61 S L3 AND ADHESIV?

L4 ANSWER 44 OF 61 CA COPYRIGHT 2003 ACS
AN 113:42185 CA
TI Boiling water-resistant polycarbonate-polyurethane **adhesives**
IN Taniguchi, Toshiro; Tanaka, Jiro
PA Kuraray Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09J175-04
ICA C08G018-44
CC 38-3 (Plastics Fabrication and Uses)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02032185	A2	19900201	JP 1988-182267	19880721
PRAI	JP 1988-182267		19880721		

AB Title **adhesives** with excellent flexibility and low-temp. adhesion, useful for bonding plastics, metals, rubbers, fibers, etc., contain polyurethane polyols of no.-av. mol. wt. (.hivin.Mn) 3000-70,000, prepd. from diisocyanates and polycarbonate polyols of .hivin.Mn 600-5000 having repeating units CH2CHMe(CH2)6OCO2. Thus, ethylene carbonate 2100, 2-methyl-1,8-octanediol (I) 2283, and 1,9-nonanediol (II) 571 parts were polymd. in vacuo to give a polyol, 1500 parts of which was further treated with 122 parts I and 31 parts II at 200.degree. to give a polycarbonate diol (.hivin.Mn 1000). Then, 200 g of this diol and 17 g TDI were polymd. in toluene contg. of Ti(OCHMe2)4 at 108.degree. for 10 h to give a 30% soln. of polyurethane diol (.hivin.Mn 20,000), 100 parts of which was mixed with 6 parts Coronate HL (1:3 trimethylolpropane/HMDI adduct) to give an **adhesive**. Poly(ethylene terephthalate) film, Al foil, and polypropylene film were laminated using the **adhesive** to give a material showing T peel strength 0.75 kg/15 mm initially, 0.77 kg/15 mm after 5 h in H2O at 120.degree., and 0.74 kg/15 mm after 4 wk in aq. AcOH at 25.degree., vs. 0.45, 0.43, and 0.43 kg/15 mm, resp., using a polyurethane **adhesive** prepd. similarly from a polycarbonate diol with .hivin.Mn 500.

ST polycarbonate polyurethane **adhesive** water resistance; boiling water resistance **adhesive** polyurethane; low temp adhesion polyurethane polycarbonate; flexibility **adhesive** polycarbonate polyurethane; methyloctanediol polycarbonate polyurethane **adhesive** retortable; nonanediol polycarbonate polyurethane **adhesive** sterilizable; isononylene glycol polycarbonate polyurethane **adhesive**; autoclavable packaging film laminate **adhesive**

IT Metals, uses and miscellaneous
RL: USES (Uses)
(**adhesives** for, polycarbonate-polyurethanes as, with good boiling water resistance and flexibility)

IT Water-resistant materials
(**adhesives**, flexible, heat-resistant, methyloctanediol-based polycarbonate-polyurethanes, manuf. of)

IT Heat-resistant materials
(**adhesives**, flexible, water-resistant, methyloctanediol-based polycarbonate-polyurethanes, manuf. of)

IT **Adhesives**
(flexible, heat- and water-resistant, methyloctanediol-based polycarbonate-polyurethanes, manuf. of)

IT Packaging materials
(laminated films, multilayer, sterilizable, plastic/metal, polycarbonate-polyurethane **adhesives** for)

IT Urethane polymers, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(polycarbonate-, **adhesives**, boiling water-resistant, with good low-temp. adhesion and flexibility)

IT Polycarbonates, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(polyurethane-, **adhesives**, boiling water-resistant, with good low-temp. adhesion and flexibility)

IT 9003-07-0, Polypropylene 25038-59-9, Poly(ethylene terephthalate), uses and miscellaneous
RL: USES (Uses)
(films, laminates, **adhesives** for, boiling water-resistant polycarbonate-polyurethanes as)

IT 7429-90-5, Aluminum, uses and miscellaneous
RL: USES (Uses)
(foil, laminates, **adhesives** for, boiling water-resistant polycarbonate-polyurethanes as)

IT **128116-61-0P 128116-62-1P 128116-63-2P**
RL: PREP (Preparation)
(manuf. of, as boiling water-resistant **adhesives** with good low-temp. adhesion and flexibility)

L4 ANSWER 61 OF 61 CA COPYRIGHT 2003 ACS
AN 72:80026 CA
TI Polycarbonate polyurethanes as **adhesives**
PA Farbenfabriken Bayer A.-G.
SO Fr., 6 pp.
CODEN: FRXXAK
DT Patent
LA French
IC C08G; C09J
CC 37 (Plastics Fabrication and Uses)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 1577640		19690808		
PRAI	DE		19670817		

AB The title compds. with improved peel resistance and storage stability are prepd. from a hydroxylated polycarbonate and a diisocyanate. Thus, a mixt. of 400 g molten 1,6-hexanediol polycarbonate and 40 g 1,5-naphthylene diisocyanate was heated 8 hr at 140.degree., and the product was dild. with MeCOEt to 50 P viscosity (20.degree.) to give an **adhesive** soln. useful for prepg. composites with a peel resistance unaffected with humidity and heat. A polyurethane **adhesive**, prepd. from poly(ethylene adipate) and tolylene diisocyanate, was sensitive to humidity and heat.
ST polycarbonate polyurethanes **adhesives**; polyurethanes polycarbonate **adhesives**; **adhesives** polycarbonate polyurethanes
IT Urethane polymers, uses and miscellaneous
RL: TEM (Technical or engineered material use); USES (Uses)
(**adhesives**, contg. hexanediol polycarbonates, for improved peel resistance)
IT **Adhesives**, preparation
(hexanediol polycarbonates and urethane polymers, for improved peel resistance)
IT 26428-45-5 **26428-46-6**
RL: TEM (Technical or engineered material use); USES (Uses)
(**adhesives**)

L4 ANSWER 58 OF 61 CA COPYRIGHT 2003 ACS
AN 82:141258 CA
TI Impact-resistant laminates of glass plate and polycarbonate polyruethanes
PA PPG Industries, Inc.
SO Fr. Demande, 43 pp.
CODEN: FRXXBL
DT Patent
LA French
IC B32B; B60J; C03C
CC 37-3 (Plastics Fabrication and Uses)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2208783	A1	19740628	FR 1972-42818	19721201
	FR 2208783	B1	19761203		
PRAI	FR 1972-42818		19721201		

AB Energy absorbing, shear-resistant, optically transparent safety glass was prepd. by laminating glass sheets with an **adhesive** interlayer of a polymer prepd. by treating a poly(oxyethylene carbonate) glycol with a diisocyanate. Thus, 62 g ethylene glycol was heated with 1408 g ethylene carbonate in the presence of K2CO3 catalyst to give a polymer with OH index 129.5, CO2 content 11.8, and mol. wt. 866. This polymer was heated with 1,4-butanediol and a mixt. of cis- and trans-4,4'-methylenebis(cyclohexyl isocyanate) in a molar ration 1.00:1.832:2.832 to give a polycarbonate urethane. A sheet of this polymer was laminated between 2 glass sheets 3.2 mm thick in 45 min at 135.degree. and 14 kg/cm2 to give a 0.92 mm thick interlayer. The laminates cracked under impact of a steel ball weighing 2.27 kg at -18.degree. but withstood an impact of 37 km/hr at 49.degree.. Comparison impact speed for a laminate with a polyvinyl butral interlayer at the same temp. was 21 km/hr.
ST polycarbonate urethane glass laminate; safety glass polycarbonate urethane; polyoxyethylene carbonate glycol isocyanate polymer
IT Urethane polymers, uses and miscellaneous
RL: USES (Uses)
(polycarbonate-, laminates with glass, impact-resistant)
IT Glass
RL: USES (Uses)
(safety, polycarbonate urethane-laminated)
IT 50601-80-4 55120-95-1 55120-96-2 55120-97-3 **55250-55-0**
RL: USES (Uses)
(laminates with glass, impact-resistant)

L4 ANSWER 57 OF 61 CA COPYRIGHT 2003 ACS
AN 83:80737 CA
TI Energy absorbing polycarbonate-urethane laminate
PA PPG Industries, Inc., USA
SO Neth. Appl., 34 pp.
CODEN: NAXXAN
DT Patent
LA Dutch
IC C03C; C08G; B32B
CC 37-3 (Plastics Fabrication and Uses)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI NL 7216387	A	19740605	NL 1972-16387	19721201
PRAI NL 1972-16387		19721201		

AB Safety glass laminates were manufd. using as **adhesives** polyurethanes from OH-terminated linear aliph. polycarbonates of av. mol. wt. 500-5000, diisocyanates, and chain extenders of mol. wt. .apprx.250. Thus, 618.4 g ethylene carbonate-ethylene glycol polymer [27306-33-8] with av. mol. wt. 799, ether-carbonate ratio 3.17, and OH no. 140.5 was dried, mixed with 120.2 g 1,4-butanediol and 553.1 g 4,4'-methylenebis(cyclohexyl isocyanate), heated 8 min at 104.degree. C while the pressure was reduced to 7 mm, and heated 20 hr at 130.degree. C, giving a polyurethane [50601-80-4] with inherent viscosity 0.75 (30.degree.C, 0.5% in N-methyl-2-pyrrolidone). Laminates were prepd. from 2 sheets of 1/8 in. glass and a 0.043 in. polymer interlayer by heating 45 min at 350.degree.F/200 psi and aged 1 week at room temp., and had av. speed for penetration by a 5 lb steel ball 14 and 25 mph at 70 and 120.degree.F, resp., compared with 24 and 13 mph, resp., for a control with a polyvinyl butyral interlayer.
ST safety glass polyurethane **adhesive**; laminated glass polyurethane **adhesive**; polycarbonate polyurethane **adhesive**
IT **Adhesives**
(polycarbonate-based polyurethanes, for safety glass)
IT Urethane polymers, uses and miscellaneous
RL: USES (Uses)
(polycarbonate-based, **adhesives**, for safety glass)
IT Glass
RL: USES (Uses)
(safety, **adhesives** for, polycarbonate based polyurethanes as)
IT 50601-80-4 55120-95-1 55120-96-2 55120-97-3 **55250-55-0** **56778-87-1**
RL: TEM (Technical or engineered material use); USES (Uses)
(**adhesives**, for safety glass)
IT 27306-33-8
RL: USES (Uses)
(polyurethanes from, for **adhesives**)